

EUROPEAN KATYDID *MECONEMA THALASSINUM* (DE GEER)
RECORDED FROM NEW LOCATION ON LONG
ISLAND, NEW YORK (ORTHOPTERA: TETTIGONIDAE)

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Abstract.—Establishment of the European katydid *Meconema thalassinum* (De Geer) is confirmed on Long Island, New York. Thirteen specimens taken at Garden City in July 1977, add a third geographic location on Long Island for the species, previously found in much smaller numbers at King's Park (1968) and Little Neck (1957 and 1959). No other North American records are known. Distinguishing morphological characteristics of the species are described and illustrated, and habits (including sound production and food preferences) are discussed.

Thirteen specimens of the European katydid *Meconema thalassinum* (De Geer) were collected by the author at Garden City, Long Island, New York, in July 1977. Known as the Oak Bush Cricket, or Eichenschrecke, this species is widely distributed in Europe (Beier, 1966), but is a rarity in North America, where it has been found previously at only two locations, both on Long Island. It was first recorded at Little Neck, Long Island, where two males and two females were taken in July and August 1957; two other specimens were taken from the same locality in 1959. The specimens from Little Neck were all collected by Mr. John K. Torres, editor of Audubon Magazine, and were reported by A. B. Gurney (1960, 1960a). The next Long Island record was at King's Park, Suffolk County in 1968, where a single male was taken by R. M. Emberson, reported by D. E. Johnstone (1970). The present find establishes a third location for the species on Long Island, with a larger number of specimens taken than heretofore. There are no other North American records known for *Meconema thalassinum*.

When first found on Long Island twenty years ago, Gurney (1960) considered it to be an established adventive, probably introduced from eggs on imported nursery stock. The scarcity of records concerning it since that time (only one specimen being recorded during the seventeen-year interim) would indicate that the species has existed in small localized populations, possibly subject to cyclical variations, or that it may even have died out and been reintroduced. It will be interesting to see what additional records of the species may occur in the future.

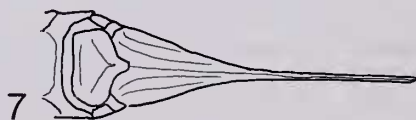
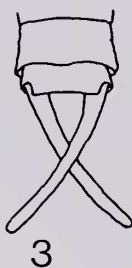
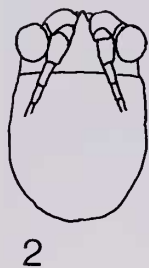
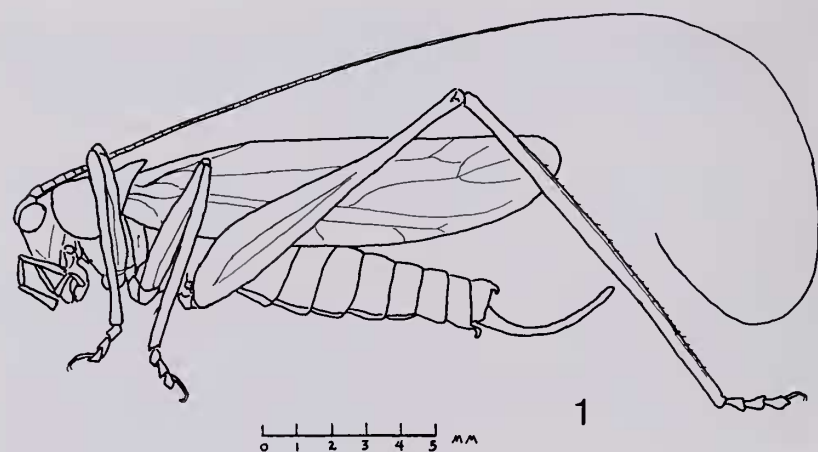
The specimens from Garden City were collected on the porch and grounds of a town-house during the period of July 7 through July 19, 1977. Most were captured in late evening walking around a light on an open porch

ceiling. Several specimens were taken when they were at rest on the porch ceiling during the day. In all, ten males and three females were collected; Dr. Irving J. Cantrall, University of Michigan Museum of Zoology, identified the species as *Meconema thalassinum* (De Geer). Specimens have been deposited in the University of Michigan Museum of Zoology, the Field Museum of Natural History, and the Academy of Natural Sciences, Philadelphia.

Meconema thalassinum is a rather small katydid, of the subfamily Meconematinae, having a body length of 11–15 mm, with tegmina extending about 3–4 mm beyond the apex of the abdomen (Fig. 1), and is thus not likely to be confused with the larger and more robust North American katydids of the subfamilies Phaneropterinae and Pseudophyllinae. Gurney (1960) has pointed out that the species does superficially resemble some of the native meadow grasshoppers of the subfamily Conocephalinae (genera *Orchelimum* and *Conocephalus*) which however have the tympana of the fore-tibia covered, except for a slit-like opening, whereas the tympana of *Meconema thalassinum* are exposed (Fig. 5). Also, in *Meconema thalassinum*, the tegmina of males and females closely resemble each other and are without any special sound-producing organs. *Meconema thalassinum* may also be distinguished by special structural characteristics of the genital areas as shown in Figs. 3, 4, 6, and 7. The male cerci are about 4 mm long, strongly curved, without the lateral projections found in native North American katydids, and with the apices scarcely specialized; the male sub-genital plate is short, apically truncate and bears two small moveable lateral appendages; the ovipositor is about 9 mm long, slightly curved and pointed, and without serrations.

The habits of this species in Europe, as described below, have been well described in handbooks by various authors, including Chopard (1951), Harz (1957) and Ragge (1965). Gurney (1960) and Johnstone (1970) have also summarized and commented on observations made by previous investigators.

Meconema thalassinum is part of the Palaearctic arboreal fauna in Europe, occurring on oaks and other deciduous trees, as well as on pines. It may be found intermittently in parks, gardens and tree-rows in urban areas, especially where there are large, old trees. The location in Garden City, Long Island, provides such a habitat with its large well-established maple trees. The species is nocturnal, individual insects remaining quiet during the day and becoming active at twilight. Perhaps the scarcity of records on Long Island may be due in part to these habits. Although some authors (Chopard, 1951; Ragge, 1965) have stressed its carnivorous habits, the species appears to be essentially omnivorous (Johnstone, 1970), feeding on oak and other deciduous leaves as well as on a variety of insects.



Figs. 1-7. *Meconema thalassinum* (De Geer). 1. Male, lateral view. 2. Head, dorsal view, showing shape of fastigium. 3. Dorsal view of supra-anal plate and cerci of male. 4. Ventral view of sub-genital plate and cerci of male. 5. Front leg, showing open tympanum. 6. Lateral view of ovipositor. 7. Ventral view of ovipositor, showing sub-genital plate of female.

The males lack the stridulatory apparatus which is found almost universally in other Tettigoniidae, but nonetheless make a "purring" or "drumming" sound. There have been conflicting reports on how this sound is produced. Some investigators (Currie, 1953; Harz, 1955) have indicated that it is caused by the rapid beating of a body part (probably a hind leg) on the substratum. However, Cappe de Baillon (1921) suggested that in connection with the rapid body movements associated with sound production, the tegmina, which are held above the body, may be rubbed together to produce the actual sound. There are microscopic teeth on the dorsal distal portion of the tegmina which could be used in sound production, but there have been no confirming observations that this is actually the case. Further observations are obviously needed in this respect.

In Europe eggs hatch in May, with adults being found from July through October. Females come down from the tree-tops to lay eggs in the cracks of rough-barked trees, or in lichens covering the tree trunks, from the beginning of September until the last of October. Whether the species has modified any of its behavior patterns or life span on Long Island, remains to be determined.

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